ABSTRACT OF THE DISCLOSURE

A method for arithmetic and geometric performance attribution which accurately links single-period attribution effects over multiple periods. The arithmetic attribution method optimally distributes the residual to yield a minimum-distortion residual-free arithmetic attribution system. The geometric attribution method defines the attribution effects in terms of ratios. The arithmetic method determines portfolio performance over multiple time periods as a sum of terms of form $(R_t - \overline{R}_t)(A + \alpha_t)$, where the coefficients α_t are defined as $\alpha_t = \left[\dfrac{R - \overline{R} - A\sum_{k=1}^{T}(R_k - \overline{R}_k)}{\sum_{k=1}^{T}(R_k - \overline{R}_k)^2} \right](R_t - \overline{R}_t)$. In preferred embodiments, the value of A is

$$A = \frac{1}{T}\left[\frac{(R - \overline{R})}{(1+R)^{1/T} - (1+\overline{R})^{1/T}} \right],$$ where $R \neq \overline{R}$, or, for the special case of $R = \overline{R}$,

$A = (1 + R)^{(T-1)/T}$, where T is the number of time periods. In all embodiments, the inventive coefficient $(A + \alpha_t)$ have smaller (typically much smaller) standard deviation than conventional logarithmic coefficients, which reduces variation in the weights assigned to each time period relative to the other time periods in the attribution calculation. In preferred embodiments, the geometric method determines portfolio relative performance over multiple time periods as $\dfrac{1+R}{1+\overline{R}} = \prod_{t=1}^{T}\prod_{i=1}^{N}(1 + I_{it}^{G})(1 + S_{it}^{G})$,

where $1 + I_{it}^{G} = \left(\dfrac{1 + w_{it}r_{it}}{1 + w_{it}\overline{r}_{it}} \right)\Gamma_t^{I}$ is the geometric issue selection and

$1 + S_{it}^{G} = \left(\dfrac{1 + w_{it}\overline{r}_{it}}{1 + \overline{w}_{it}\overline{r}_{it}} \right)\left(\dfrac{1 + \overline{w}_{it}\overline{R}_t}{1 + w_{it}\overline{\overline{R}}_t} \right)\Gamma_t^{S}$ is the geometric sector selection. The attribution effects employed in preferred embodiments of the inventive geometric attribution method have more natural form than the conventional counterparts, and allow geometric attribution to be performed more accurately. Other aspects of the invention are a computer system programmed to perform any embodiment of the inventive method, and a computer readable medium which stores code for implementing any embodiment of the inventive method.